The Short-term Effect of Graded Motor Imagery on the Affective Components of Pain in Subjects with Chronic Shoulder Pain Syndrome: Open-Label Single-Arm Prospective Study

Araya-Quintanilla, F.
Gutiérrez-Espinoza, H.
Jesús Muñoz-Yanez, M.
Rubio-Oyarzún, D.
Cavero-Redondo, I.
Martínez-Vizcaino, V.
Álvarez-Bueno, C.

Abstract
OBJECTIVE: To determine the short-term effect of graded motor imagery (GMI) on the affective components of pain and range of motion in subjects with chronic shoulder pain syndrome. DESIGN: Open-label single-arm prospective study. SETTING: The Physical Therapy Laboratory, Universidad de las Americas. SUBJECTS: One hundred seven patients with chronic shoulder pain syndrome. METHODS: The subjects received a six-week GMI program based on laterality training, imagined movements, and mirror therapy. We assessed pain intensity using a visual analog scale (VAS), fear of movement was assessed using the Tampa Scale of Kinesiophobia (TSK), and catastrophizing was assessed using the Pain Catastrophizing Scale (PCS). The patient's flexion active range of motion (AROM) was also recorded. RESULTS: At the end of treatment, the VAS showed a decrease of 4.2 cm ($P < 0.001$, Cohen's d = 3.3), TSK showed a decrease of 17.0 points ($P < 0.001$, Cohen's d = 2.8), catastrophizing showed a decrease of 19.2 points ($P < 0.001$, Cohen's d = 3.2), and shoulder flexion AROM showed an increment of 30.3º ($P < 0.000$, Cohen's d = 1.6). CONCLUSIONS: We conclude that a short-term GMI program improves the affective components of pain and shoulder flexion AROM in patients with chronic shoulder pain syndrome.